# THE ENVIRONMENTAL PROTECTION THROUGH UTILISING SUSTAINABLE MATERIAL IN CONSTRUCTION INDUSTRY

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# DEDICATION

***To my beloved father, mother, brother and sister,***
*Thanks for supporting and giving me encouragement.*

***Lecturer and staff from Faculty of Civil Engineering,***
*Thanks for giving me guidance and educate me.*

***My Dedicated Supervisor,***
*Prof. Dr. Muhd. Zaimi Bin Abd. Majid*
*Who I will always respect and remembered.*

***And course mates***
*Thanks for giving me happiness and sweet memories; let us fight for our bright future and good luck in our future undertakings.*

***Thanks for Everything.***

*All books reveal perfection, by what they are or what they are not.*
*May you find that which you seek, in these pages or outside them.*
*May you find perfection, and know it by name*

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# ABSTRACT

The environment impacts from the construction industry activities had lead to a growing realization that there is a need for a more sustainable approach to the construction industry. In Malaysia, the issues of environmental dissatisfaction on construction projects have regularly appeared in newspaper headlines. Hence, this research was carried out in order to investigate the environmental protection through utilising sustainable materials towards achieving sustainable development in construction industry. The implementation of sustainable development is crucial to the need for better environmental protection, economic prosperity, and social well-being. It can be achieved by execution of sustainable construction which can reduce environmental impact of a building over its entire lifetime while optimize economic viability and the comfort and safety of occupants. This research utilised quantitative research methodology where questionnaires were distributed among construction parties. The data collected through questionnaires was analyzed with Microsoft Excel and SPSS 16.0. The findings revealed that construction activities have significant effects on the environment which resulting air pollution, land pollution, noise pollution, water pollution, and waste pollution. Besides, results also shown that the respondents are aware on the sustainable issues in Malaysian construction industry. In short, the aluminum was selected as the most appropriate sustainable building material in the implementation of sustainable development in Malaysian construction industry.

# ABSTRAK

Kesan alam sekitar daripada industri pembinaan telah meningkatkan kesedaran bahawa pendekatan yang lebih mampan adalah diperlukan dalam industri pembinaan pada masa ini. Di Malaysia, isu-isu alam sekitar yang berkaitan dengan projek-projek pembinaan selalu disiarkan dalam akhbar. Oleh itu, kajian ini telah dijalankan untuk menyiasat perlindungan alam sekitar melalui penggunaan bahan mampan yang sesuai ke arah mencapai pembangunan mampan dalam industri pembinaan. Pelaksanaan pembangunan mampan adalah penting untuk melindungi alam sekitar, meningkatkan kemakmuran ekonomi dan mencapai kesejahteraan sosial. Ia boleh dicapai dengan pelaksanaan pembinaan mampan yang boleh mengurangkan kesan alam sekitar, dan pada masa yang sama ia boleh manakala mengoptimumkan daya maju ekonomi dan keselesaan dan keselamatan penghuni. Kajian ini menggunakan kaedah penyelidikan kuantitatif di mana soal selidik telah diedarkan di kalangan parti pembinaan. Data yang dikumpulkan telah dianalisis dengan menggunakan Microsoft Excel dan SPSS 16.0. Hasil kajian menunjukkan bahawa aktiviti pembinaan mempunyai kesan ketara ke atas alam sekitar yang mengakibatkan pencemaran udara, pencemaran tanah, pencemaran bunyi, pencemaran air, dan pencemaran sisa. Selain itu, keputusan juga menunjukkan bahawa responden mengetahui atau menyedari tentang isu-isu yang berkaitan dengan kemampanan dalam industri pembinaan Malaysia. Pendek kata, aluminium telah dipilih sebagai bahan binaan mampan yang paling sesuai digunakan dalam melaksanakan pembangunan mampan di industri pembinaan Malaysia.